Part A

Nora's Bagel Bin Database Blueprints *(continued)*

Second Normal Form (2NF)

BAGEL ORDER	
PK	Bagel Order ID
	Order Date
	First Name
	Last Name
	Address 1
	Address 2
	City
	State
	Zip
	Mobile Phone
	Delivery Fee
	Special Notes

1:M

BAGEL ORDER LINE ITEM	
PK / FK	Bagel Order ID
PK / FK	Bagel ID
	Bagel Quantity

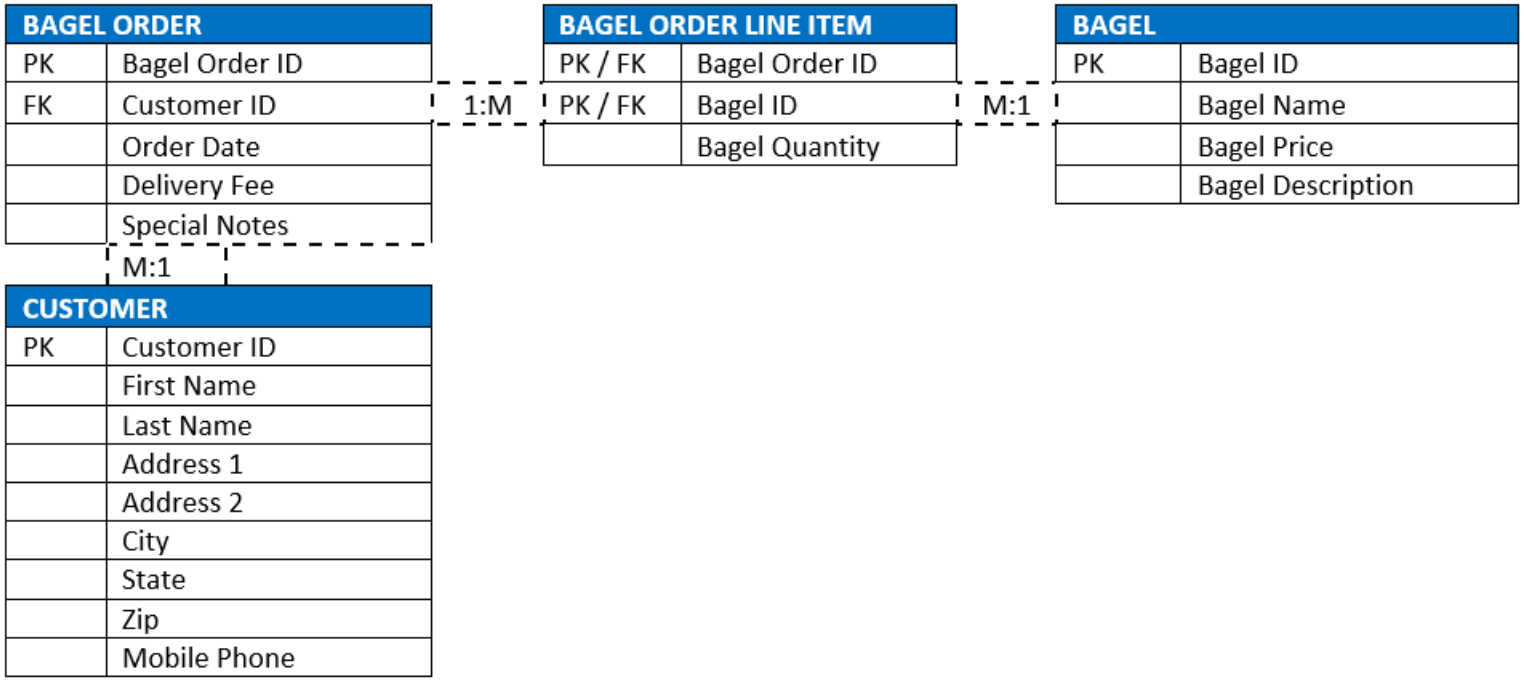
M:1

BAGEL	
PK	Bagel ID
	Bagel Name
	Bagel Price
	Bagel Description

The attributes selected above each depend on the entire primary key of their respective tables. Because of this, the tables are in second normal form. The cardinality of the BagelOrder_Contains_BagelOrderLineItem relationship is 1:M because for every Bagel Order, there can be a maximum of 'many' line items, and for every line item, there is a maximum of one order. The cardinality of the BagelOrderLineItem_Is_Bagel relationship is M:1 because each line item is at most 1 bagel, and each bagel may be in many line items.

Nora's Bagel Bin Database Blueprints *(continued)*

Third Normal Form (3NF)



The attributes from the Bagel Order Line Item and Bagel tables did not need to be changed, but many of the attributes in the Bagel Order table depended on other non-key attributes. Within the new Bagel Order and Customer tables, each attribute depends on it's respective primary key and nothing else. The cardinality between the top three tables remains unchanged. The cardinality between Bagel Order and Customer is M:1 because one customer may place many orders, but each order was placed by one customer.

Nora's Bagel Bin Database Blueprints *(continued)*

Final Physical Database Model

BAGEL ORDER		
PK	bagel_order_id	INT
FK	customer_id	INT
	order_date	TIMESTAMP
	delivery_fee	NUMERIC(5,2)
	special_notes	VARCHAR(300)

1:M

BAGEL ORDER LINE ITEM		
PK / FK	bagel_order_id	INT
PK / FK	bagel_id	CHAR(2)
	bagel_quantity	INT

M:1

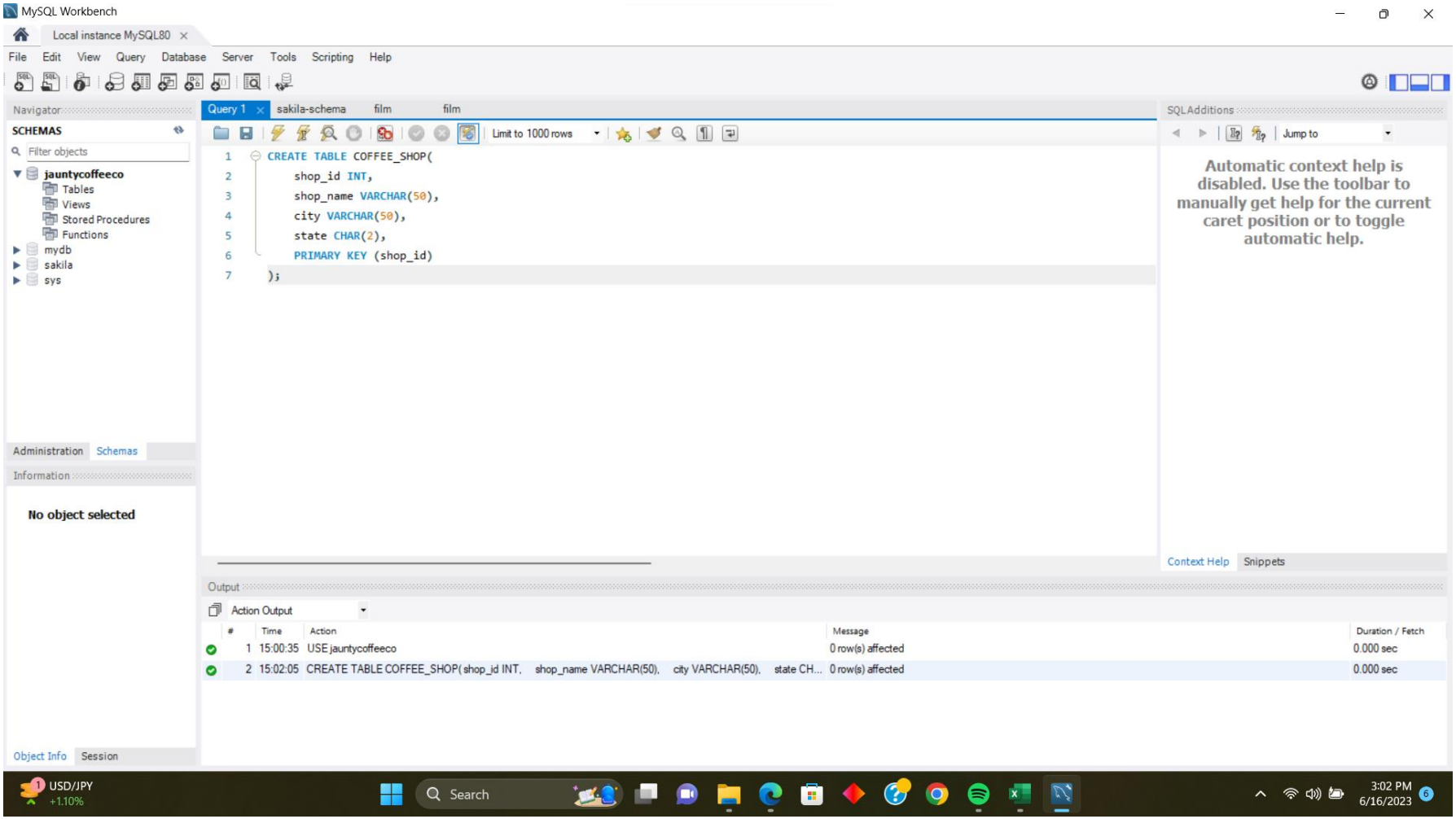
BAGEL		
PK	bagel_id	INT
	bagel_name	VARCHAR(30)
	bagel_price	NUMERIC(5,2)
	bagel_description	VARCHAR(300)

M:1

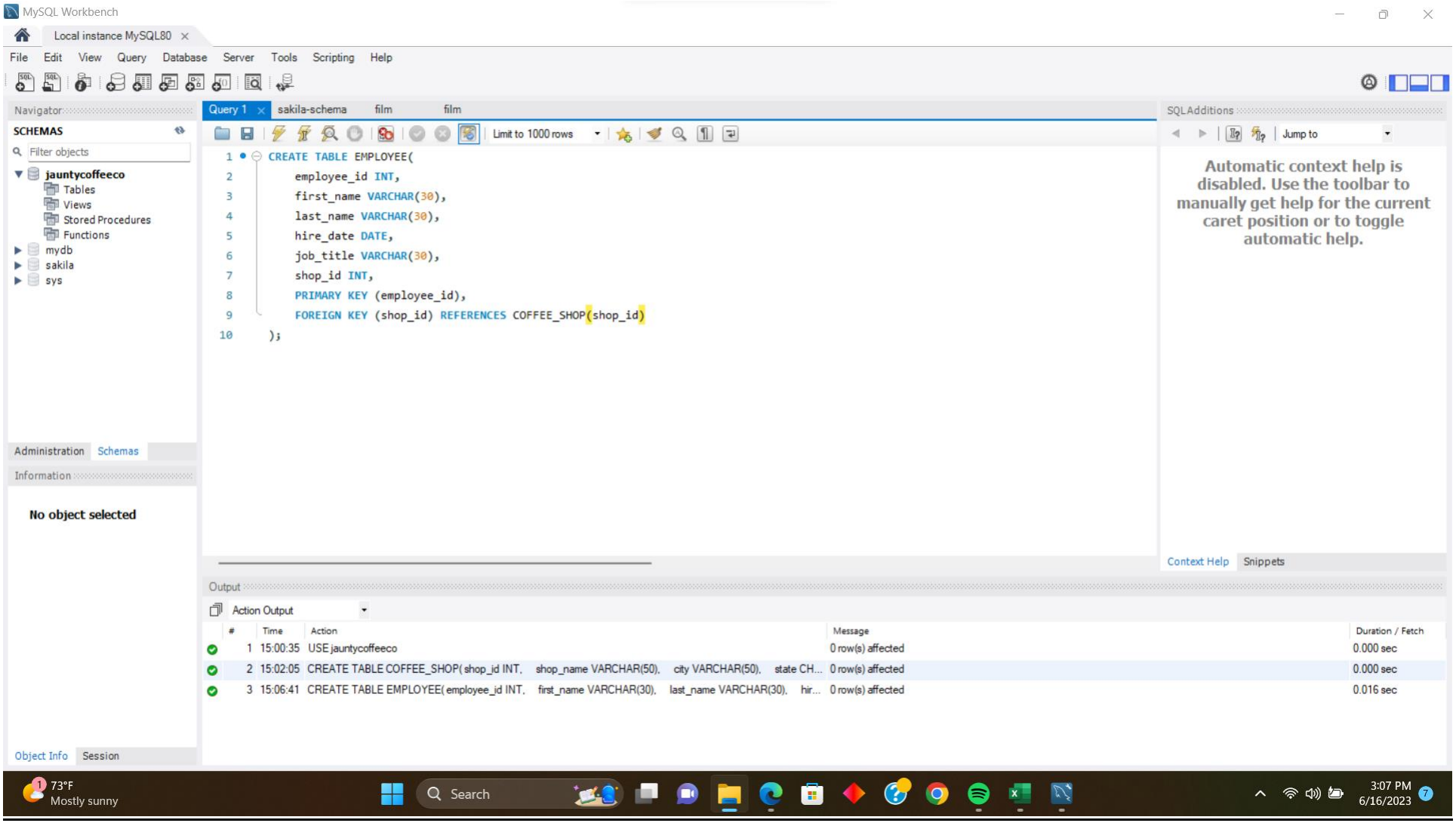
CUSTOMER		
PK	customer_id	INT
	first_name	VARCHAR(30)
	last_name	VARCHAR(30)
	address_1	VARCHAR(100)
	address_2	VARCHAR(100)
	city	VARCHAR(50)
	state	CHAR(2)
	zip	INT
	mobile_phone	INT

PART B

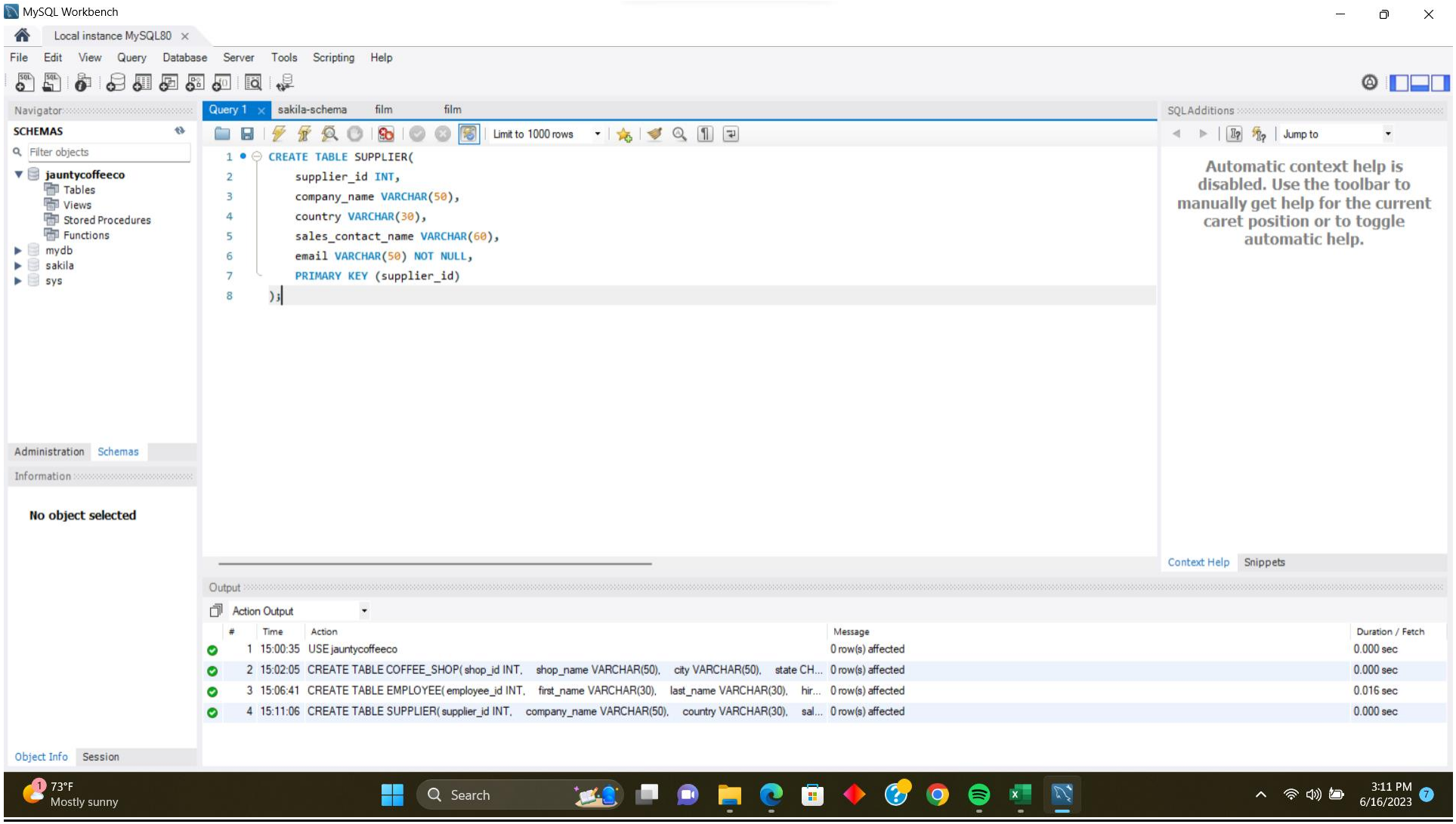
COFFEE_SHOP Table Creation



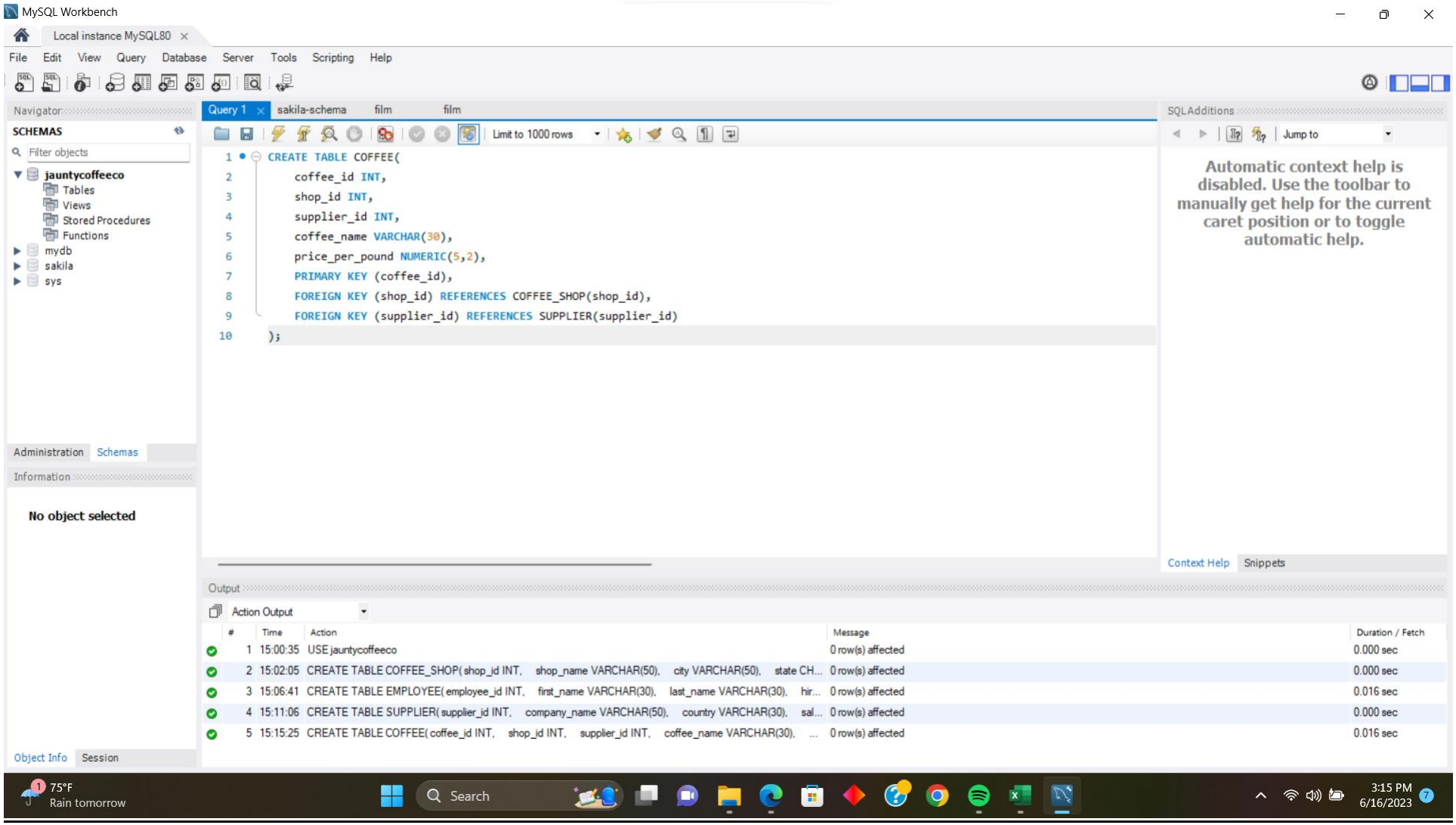
EMPLOYEE Table Creation



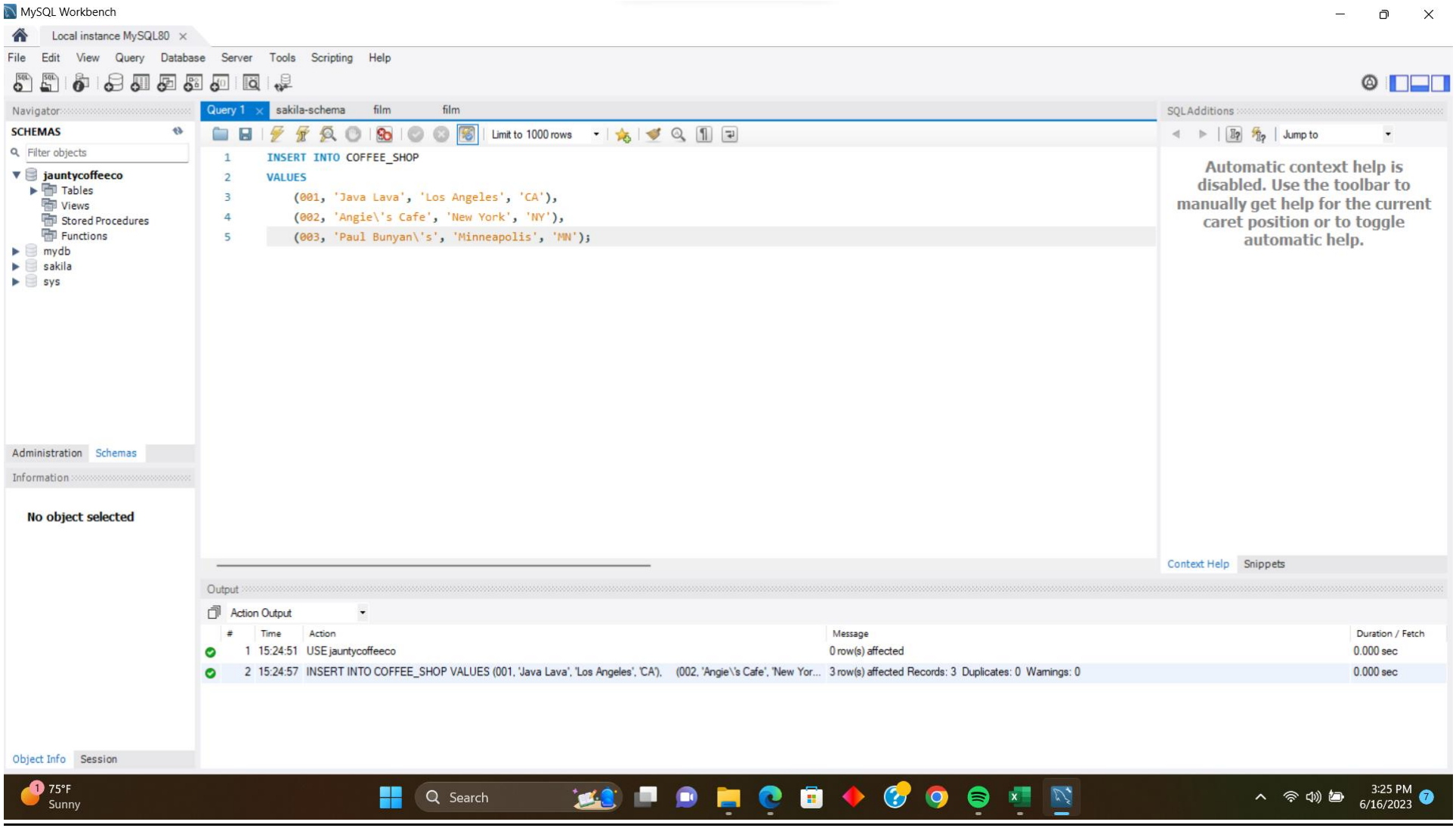
SUPPLIER Table Creation



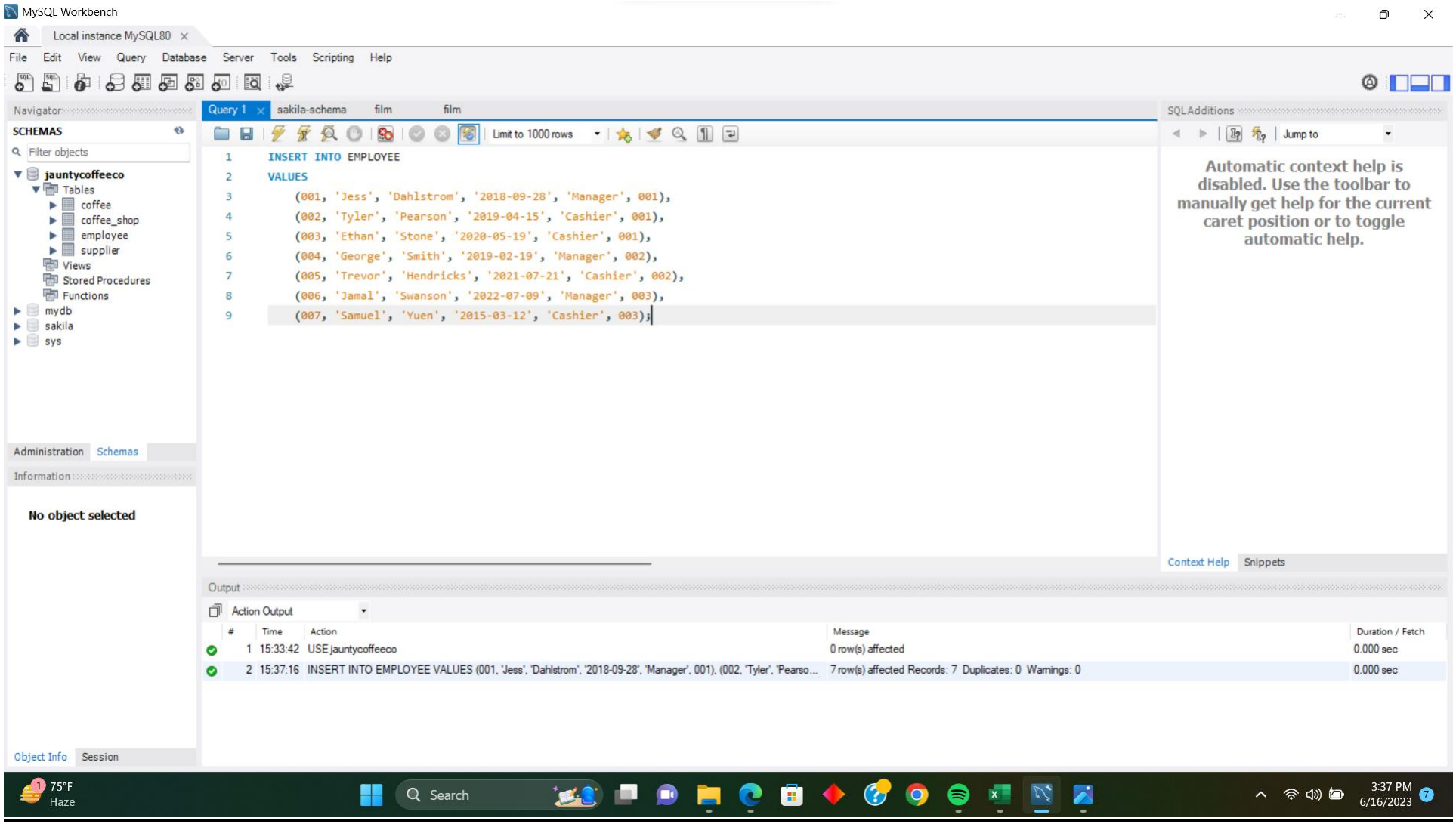
COFFEE Table Creation



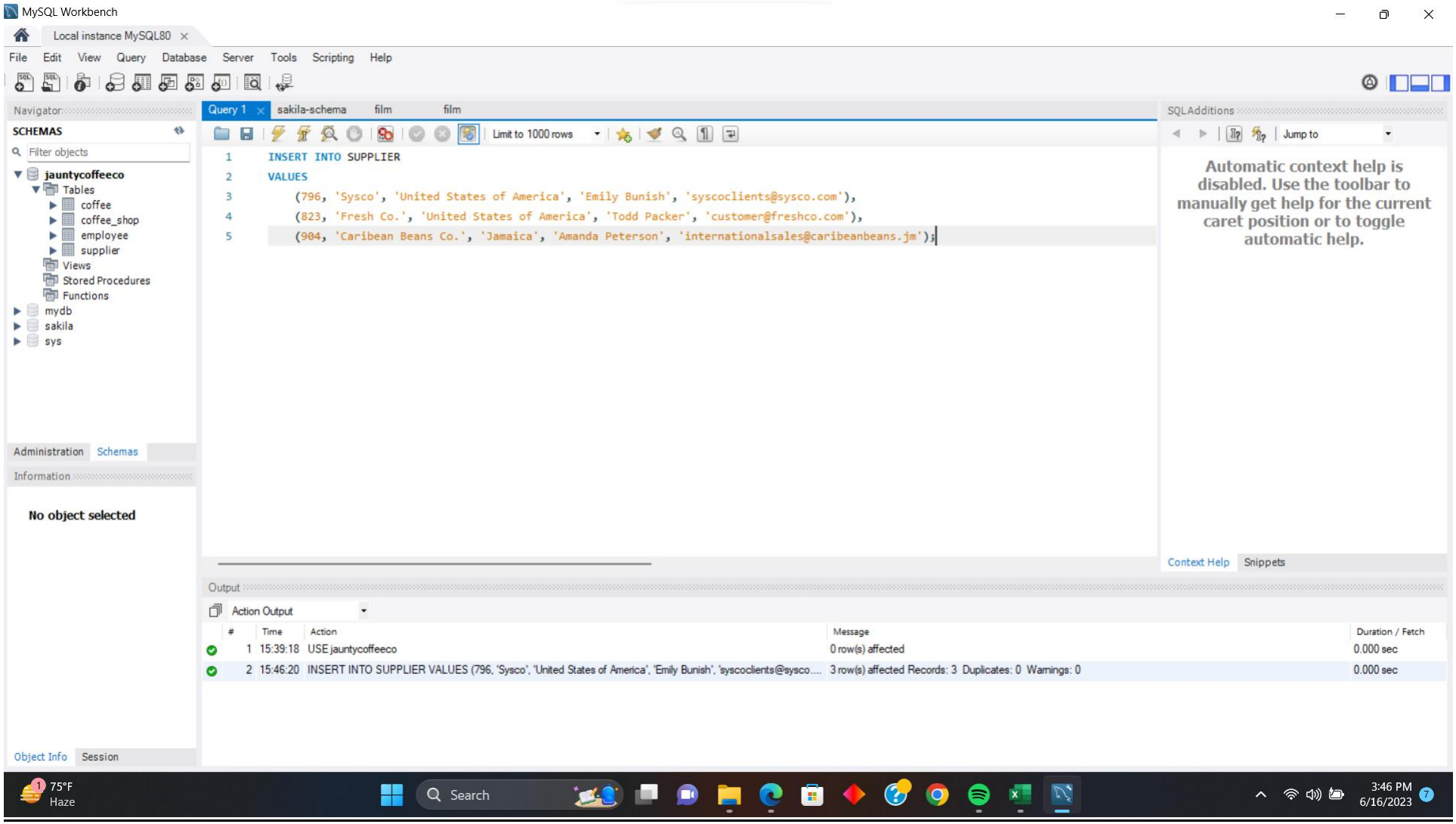
COFFEE_SHOP Row Insertion



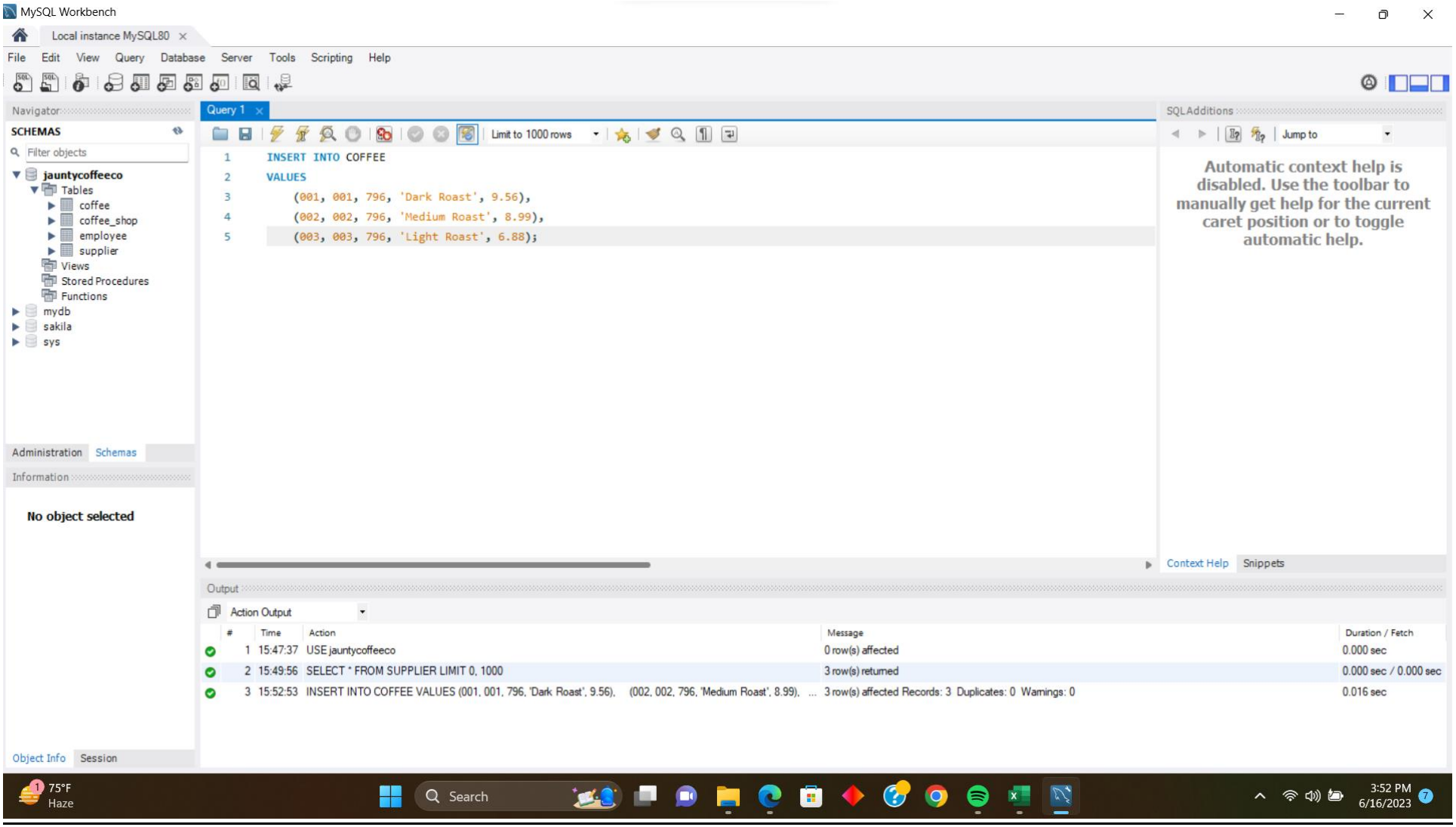
EMPLOYEE Row Insertion



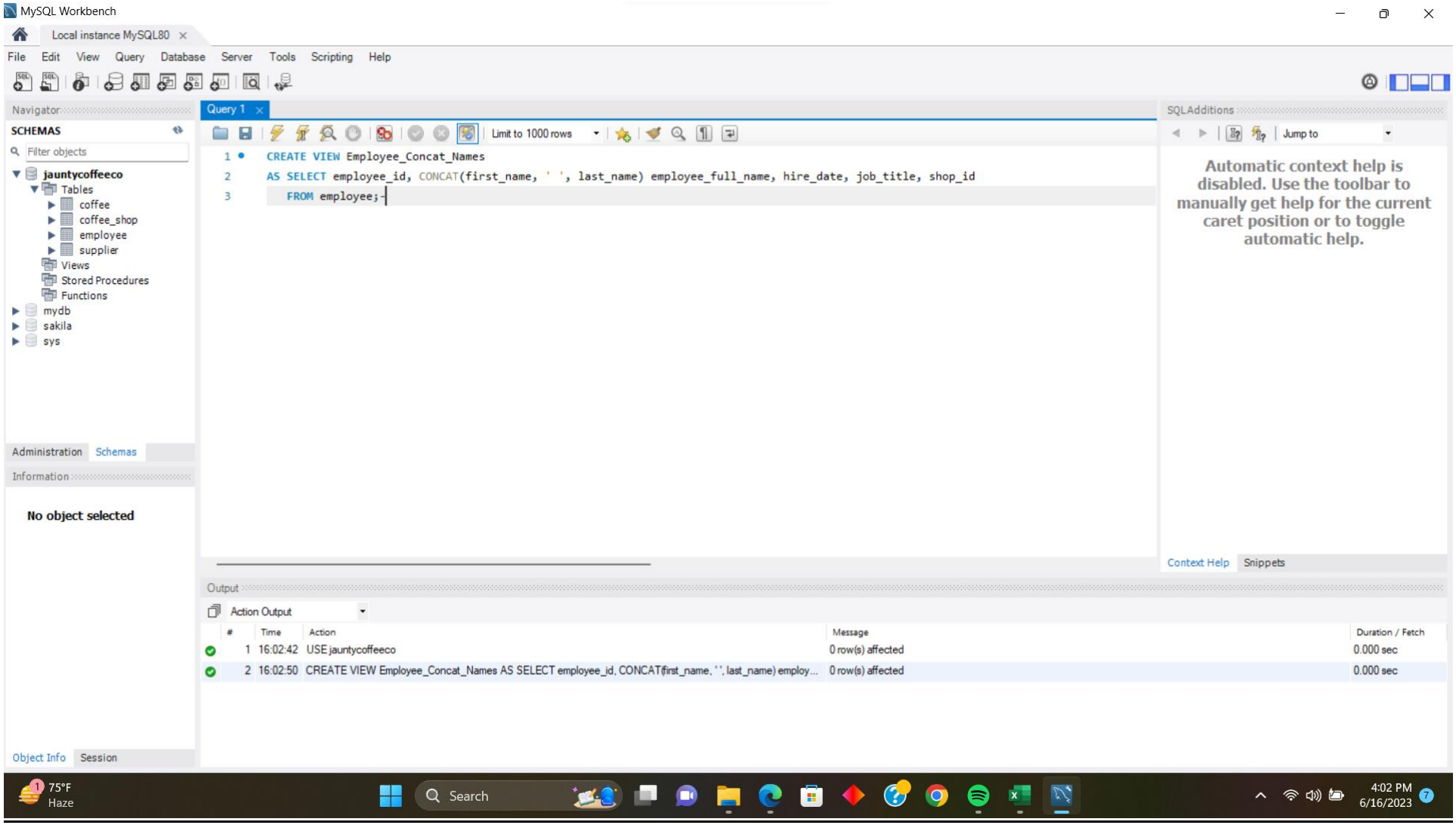
SUPPLIER Row Insertion



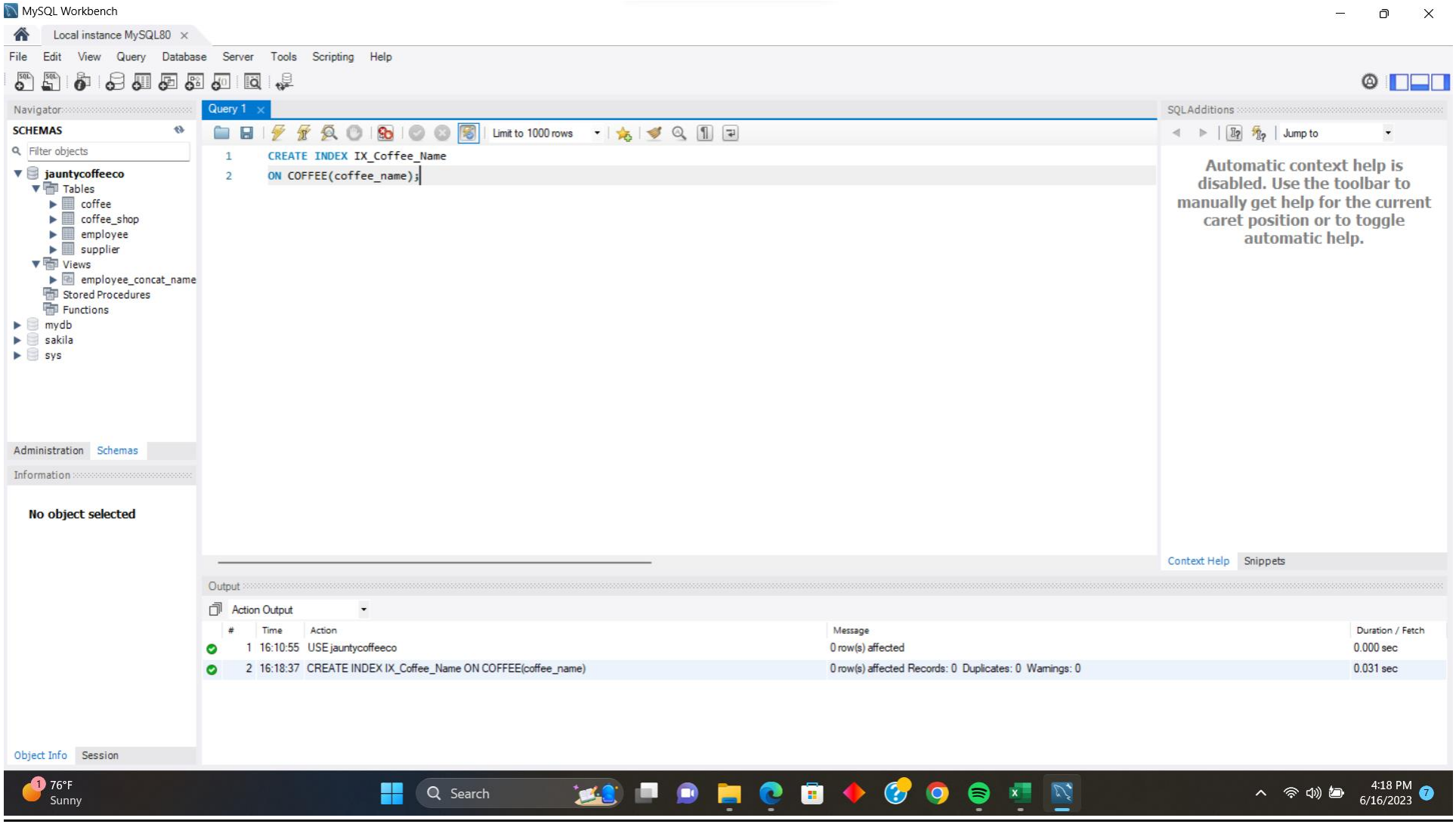
COFFEE Row Insertion



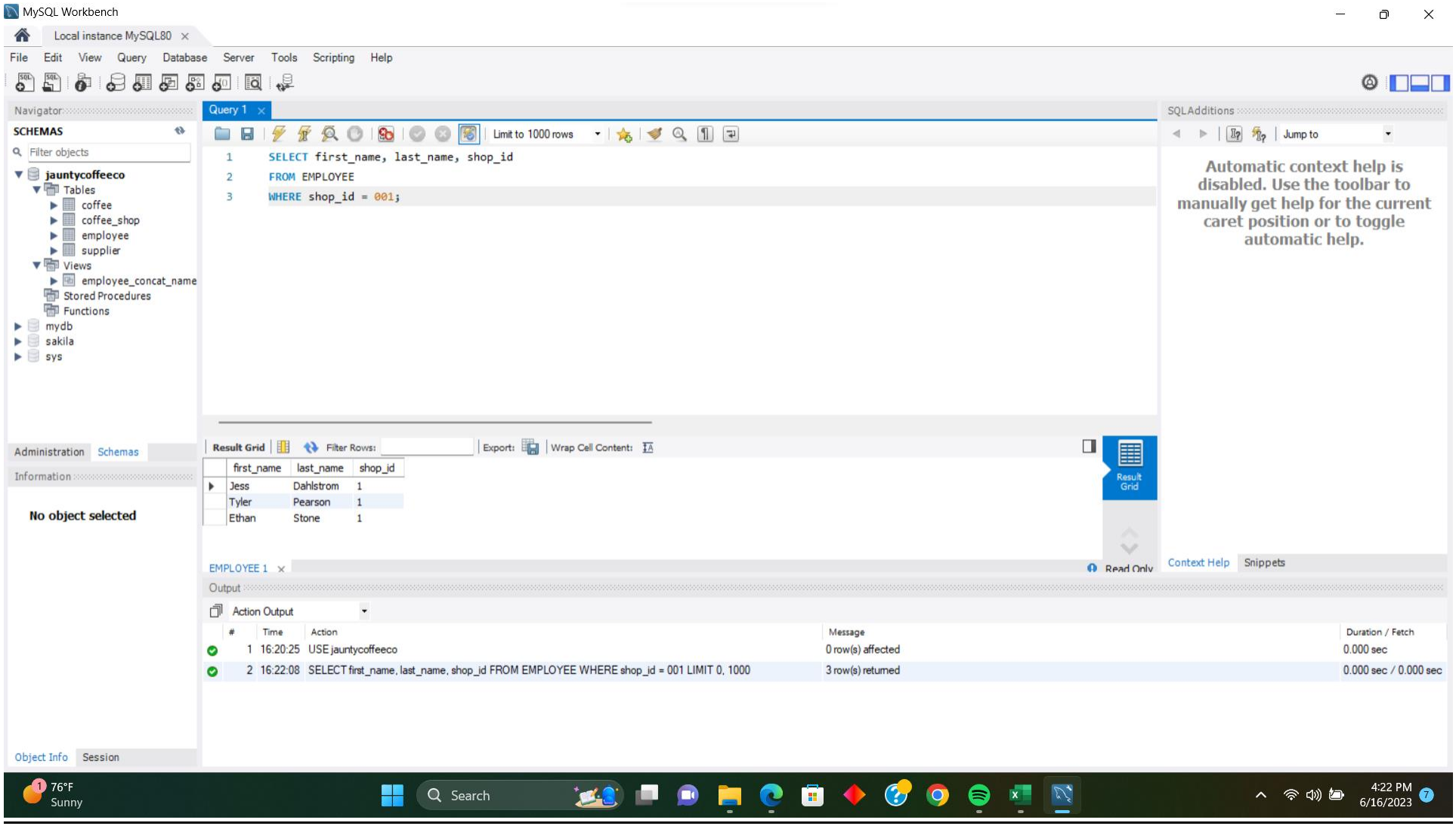
VIEW TABLE Creation



INDEX Creation



SELECT FROM WHERE Query



INNER JOIN Query